1. **(Amended Five Times)** An isolated polypeptide which is capable of binding a ligand selected from the group consisting of LERK3, LERK4, LERK5 and LERK7, wherein said isolated polypeptide

consists of the amino acid sequence set forth in SEQ ID NO:4.

20. **(Amended Four Times)** The isolated polypeptide of Claim 1 which is a recombinant polypeptide produced by a host cell.

REMARKS

Claims 2-3, 34-36, 39-40 and 44 have been canceled. Claims 1 and 20 have been amended. As a result of the amendment, Claims 1, 4, and 20 are pending.

The changes made to the specification and claims by the current amendment, including **[deletions]** and additions, are shown on an attached sheet entitled **VERSION WITH MARKINGS TO SHOW CHANGES MADE**, which follows the signature page of this amendment.

Rejection under 35 U.S.C.§112, second paragraph

The Examiner has rejected claims 1-8, 20, 34-36, 39-40 and 44 as being indefinite for the recitation of " an Eph receptor tyrosine kinase gene" and "an Eph family tyrosine kinase". Claims 2-3, 34-36, 39-40 and 44 have been canceled and Claims 1 and dependant claims 4 and 20 have been amended to remove the indefinite language, thus, rendering the rejection moot.

Rejection under 35 U.S.C.§112, first paragraph

The Examiner has rejected claims 1-8, 20, 34-36, 39-40 and 44 because the Examiner believes that the Specification, while being enabling for an isolated polypeptide, wherein the polypeptide comprises an amino acid sequence disclosed in SEQ ID NO:4 or encoded by SEQ ID NO:5, wherein said peptide binds LERK3, LERK4, LERK5, and LERK7, does not reasonably provide enablement for other polypeptides. The claims language has been amended as suggested by the Examiner, thus, the rejection is believed moot.

Rejection under 35 U.S.C.§102(a)

The Examiner has rejected claims 1-8, 20, 34-36, 39-40 and 43 as being anticipated by Boyd et al (Ref B, U.S. Patent No. 5,674,691). More specifically, the Examiner believes that Boyd et al. describes a polypeptide identical to that described in the instant application and

therefore is expected to have the same exon structure. However, Boyd does not identify a protein consisting of SEQ ID NO:4 from within the larger, cysteine-rich extracellular domain taught by US patent 5,674,691. Furthermore, Boyd et al does not disclose which of the many cysteines in the extracellular domain are disulfide-bonded and important in ligand binding (see Claim 4). Thus, Claims 1, 4, and 20 are novel in light of Boyd et al.

Rejection under 35 U.S.C.§112, first paragraph

The Examiner has rejected claims 1-6, 20, 34-36, 39-40 and 43 as claiming subject matter which was not described in the specification in such a way that one of skill in the art would believe that the inventor had possession of the invention. Specifically, the Examiner believes that the scope of the claims is too broad and includes any full-length, truncated, fusion polypeptides and variants of a genus and fails to describe definitive structural or functional features of the claimed genus. Applicants submit that the newly claimed invention is described extensively in the specification, including the full sequence of SEQ ID NO:4 and the disulfides which are important in ligand binding (see Claim 4). Thus, Applicants respectfully request withdrawal of the rejection under 35 U.S.C.§112, first paragraph.

Rejection under 35 U.S.C.§112, first paragraph

The Examiner has rejected claims 2 and 6 as claiming subject matter which was not described in the specification in such a way that one of skill in the art would believe that the inventor had possession of the invention. Specifically, the Examiner believes that there is no support for the statement: "isolated polypeptide excluding the entire extracellular domain of an Eph family receptor tyrosine kinase". Claims 2 and 6 have been canceled thus, rendering the rejection moot.

Conclusion

Should there be any questions regarding the above-identified patent application, the Examiner is respectfully requested to contact the undersigned at the following telephone number: 310-407-3472. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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Dated: Feb 14 /2002

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

On page 24, after the last paragraph, starting on line 31, please insert:

--FIG. 10E: Uninjected embryo at 12 hpf showing normal expression of *hlx-1* in the ventral forebrain, *pax-b* in the midbrain, *krox 20* in rhombomeres 3 and 5 of the hindbrain and *myoD* in the paraxial mesoderm.--.

IN THE CLAIMS

Please cancel claims 2-3, 34-36, 39-40 and 44.

Please amend the remaining claims as follows:

1. **(Amended Five Times)** An isolated polypeptide which is capable of binding a **[LERK,]**ligand selected from the group consisting of LERK3, LERK4, LERK5 and LERK7, wherein said isolated polypeptide **[consisting essentially of and amino acid sequence encoded by exons selected from the group consisting of:**

exon II of an Eph receptor tyrosine kinase gene;

exon II and exon III of an Eph receptor tyrosine kinase gene; and

exon I, exon II, and exon III of an Eph receptor tyrosine kinase gene]

consists of the amino acid sequence set forth in SEQ ID NO:4.

20. **(Amended Four Times)** **[A recombinant]**The isolated polypeptide of Claim 1 which is a recombinant polypeptide produced by a host cell **[wherein said recombinant polypeptide comprises the polypeptide of Claim 1]**.